

ABSTRACT

A method of forming optically transparent and electrically conductive SWNT films includes the steps of providing a porous membrane and dispersing a plurality of SWNTs into a solution, the solution including at least one surface stabilizing agent for preventing the SWNTs from flocculating out of suspension. The solution is then applied to the membrane. The solution is then removed, wherein the SWNTs are forced onto the surface of the porous membrane to form a SWNT film on the membrane. The method can include the step of separating the SWNT film from the porous membrane, such as by dissolving the membrane. An electrically conducting and optically transparent single wall carbon nanotube (SWNT) film provides a sheet resistance of less than 200 ohm/sq and at least 30% transmission at a wavelength of 3 μm .